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Title

Hydroacoustic signal **correlation** at separated points with directional reception in the vertical plane.

Source

Acoustical Physics, {Acoust-Phys-Russia}, July-Aug. 1999, vol. 45, no. 4, p. 426-32, CODEN: AOUSEK, ISSN: 1063-7710.

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Author(s)

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Abstract

Results of experimental studies of the **cross-correlation** of signals received at different distances in the Pacific Ocean as well as the **cross-correlation** between signals recorded in various oceans are presented. The experiment consists of a continuous pseudonoise **transmission** in the **frequency** range from 0.5 to 4.0 kHz and a reception of signals propagating without reflections from the waveguide boundaries with the use of highly directional arrays ($\sim 2^\circ$) in the vertical plane. The **cross-correlation** coefficients measured at points separated by a **distance** of 60 km along the track vary from 0.74 to 0.93, and for a 120-km separation they vary from 0.52 to 0.59. For signals received in different oceans (the Atlantic and Pacific, the Atlantic and Indian, and the Pacific and Indian oceans), the **cross-correlation** coefficients prove to be high as well (up to 0.83).

Descriptors

 [ACOUSTIC-CORRELATION](#);  [ACOUSTIC-WAVEGUIDES](#);  [OCEANOGRAPHIC-REGIONS](#);
 [UNDERWATER-ACOUSTIC-PROPAGATION](#).

Classification codes

[A9210V Underwater-sound*](#);

[A4330 Underwater-sound](#);

[A4360 Acoustic-signal-processing](#);

[A9330P Pacific-Ocean](#).

Keywords

hydroacoustic-signal-correlation; separated-points; directional- reception; vertical-plane; Pacific-Ocean; continuous-pseudonoise- **transmission**; waveguide-boundaries; highly-directional-arrays; **cross- correlation-coefficients**; 0.5-to-4-kHz.

Treatment codes

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Numerical indexing

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